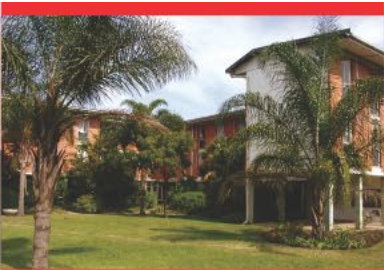UNIVERSITY OF
KWAZULU-NATAL ™

INYUVESI
YAKWAZULU-NATALI

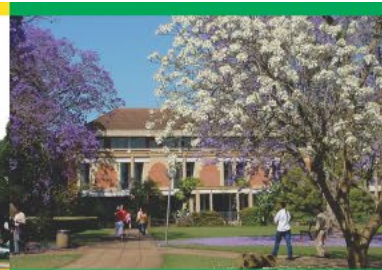# The PhD Journey
Mergan Naidoo

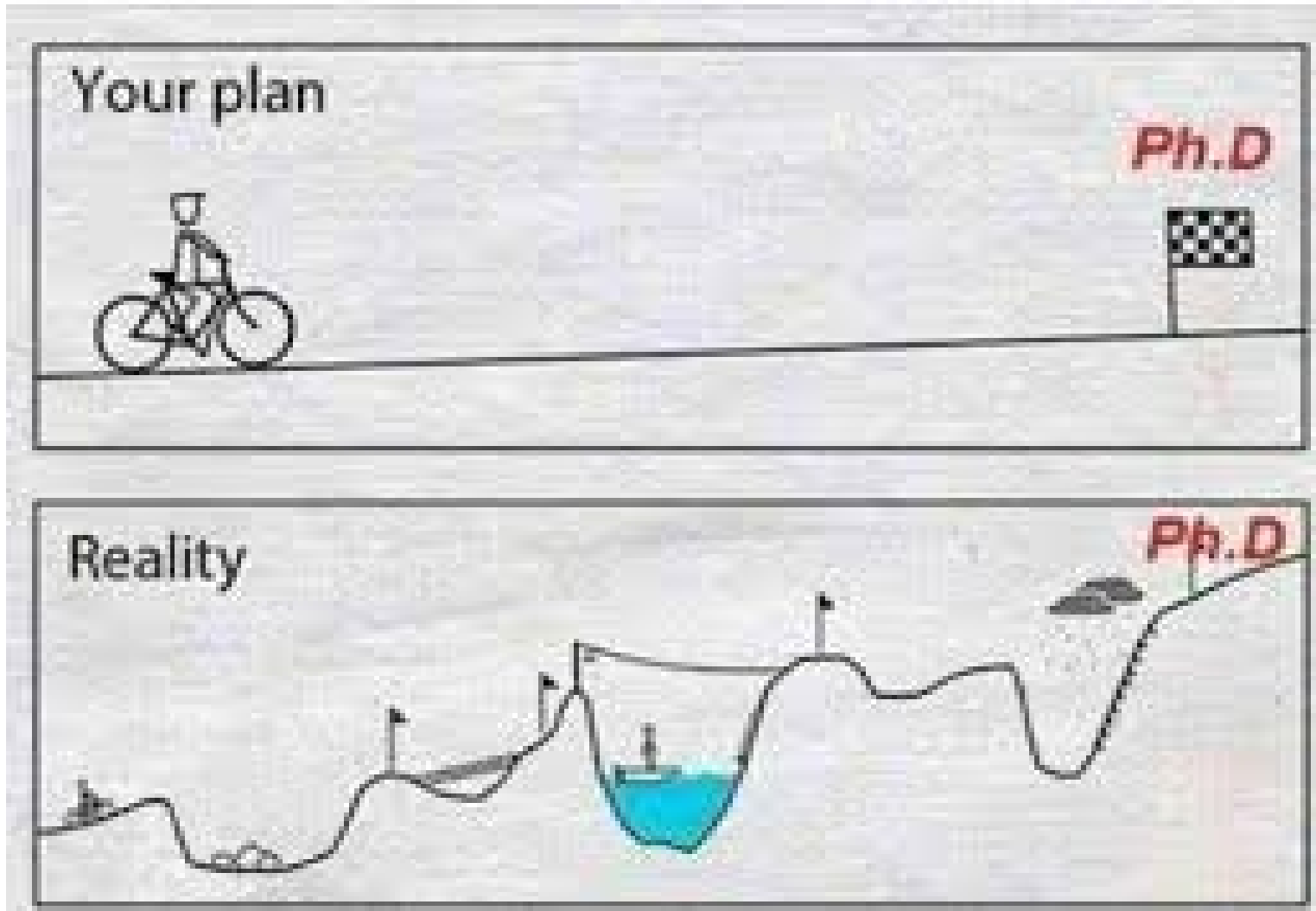EDGEWOOD CAMPUS   HOWARD COLLEGE CAMPUS   NELSON R MANDELA SCHOOL OF MEDICINE   PIETERMARITZBURG CAMPUS   WESTVILLE CAMPUS

INSPIRING GREATNESS

Outline

- Introduction
- Breakout session 1
- Recognizing skills for a PhD
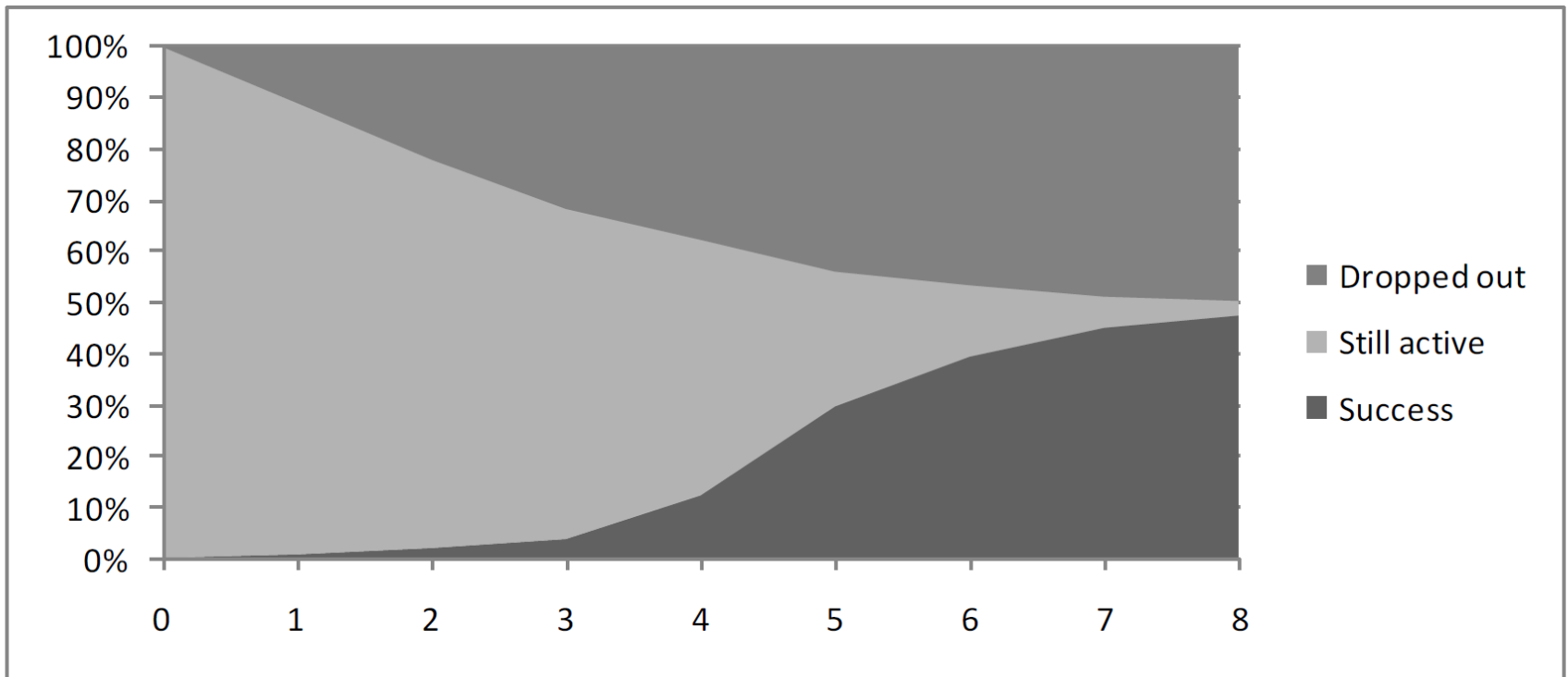- Breakout session 2
- Portfolio of research

The PhD journey

Figure 1: Status of junior researchers within 8 years of sponsored time

Groenvynck H, Vandevelde K, Van Rossem R. The PhD track: who succeeds, who drops out? Research Evaluation. 2013;22(4):199-209.

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Table 2: Indicators by scientific discipline: Sponsored time to degree, success and drop-out rate

	N	Median (FTTD)	Mean (FTTD)	SD (FTTD)	Success rate (after 8 years)	Drop-out rate (after 8 years)
Natural	6,234	4.34	4.51	1.38	62.4%	35.8%
Medical	6,787	4.55	4.71	1.68	51.6%	45.6%
Humanities	4,188	4.81	5.02	2.01	36.8%	58.7%
Social	5,179	5.02	5.20	1.78	29.4%	65.7%
Applied	6,335	4.52	4.64	1.62	49.6%	47.8%

Groenvynck H, Vandevelde K, Van Rossem R. The PhD track: who succeeds, who drops out? Research Evaluation. 2013;22(4):199-209.

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Success factors

	Mean (SD) Years	Success rate after 8 years (%)	Drop out rate (%)
Natural sciences	4.5 (1.38)	63.4	35.8
Competitive scholarship (Flanders)	4.56 (1.12)	83.7	15.5
Competitive scholarship (own university)	3.78 (1.54)	75.7	22.7
Age < 26 years	4.93 (1.44)	52.7	44.3
Non EU researchers	3.09 (1.61)	53.4	46.3

Groenvynck H, Vandevelde K, Van Rossem R. The PhD track: who succeeds, who drops out? Research Evaluation. 2013;22(4):199-209.

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Purpose of the PhD

The graduates from this programme should contribute in generating and/or broadening the knowledge base in the selected area of study and influence discipline related policies and practices.

Learning outcomes

- Demonstrate expertise and critical knowledge in the area of specialisation and be able to conceptualise research and create new knowledge or practice

- Contribute to scholarly debates around theories of knowledge and processes of knowledge production in their chosen field

- Develop new methods, techniques, processes and systems or technologies in original, creative and innovative ways appropriate to the specialised context of their chosen field

- Solve problems by applying specialist knowledge and theory in critically reflexive, creative and novel ways to address complex theoretical and practical problems

- Demonstrate ethical and professional practice by identifying, addressing and managing emerging ethical issues and advancing processes of ethical decision-making, including monitoring and evaluation of the consequences of these decisions where appropriate

Learning outcomes

- Make independent judgements about managing incomplete or inconsistent information or data in an iterative process of analysis or synthesis for the development of insights into complex and abstract ideas, information or issues

- Produce substantial , independent , in-depth publishable works which meet international standards which is considered to be new and innovative by their peers and makes a significant contribution to the field

- Understand theoretical underpinnings in the management of complex systems to achieve systemic change and the ability to independently design, sustain and manage change within the system or systems

- Demonstrate intellectual independence, research leadership and management of research and research development in their chosen field

- Operate independently and take full responsibility for his or her work and lead, oversee and be held accountable for the overall governance of processes and systems

Breakout session 1

- What are the current challenges faced by PhD students in your context?

- How can these challenges be addressed?

Adult learning theory

- Adults are **internally** motivated and **self-directed**

- Adults bring **life experiences** and **knowledge** to learning experiences

- Adults are **goal oriented**

- Adults are **relevancy oriented**

- Adults are **practical**

- Adult learners like to be **respected**

Knowles 1974

World Economic Forum. New vision for education: Fostering social and emotional learning through technology. Geneva: World Economic Forum. 2016

Beginning the journey

- Decide on a topic:

❑Sc Val, Soc Val, Feasibility, Passion

- Concept note

- Choose your supervisor

- Meet with your supervisor- virtually

- Sign an agreement

- Research Plan

PARADIGM

Shared understandingg of reality

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"Patterns   of beliefs and practices that regulate enquiry witin a discipline"

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Three Core Concepts

ONTOLOGY
Reality: What is real?

EPISTEMOLOGY
Nature, forms of knowledge: What is true?

METHODOLOGY
Research:
How do I examine what is real?

DIFFERENCES AMONGST THE APPROACHES TO RESEARCH

|	POSITIVIST	INTERPRETIVIST	FEMINIST	CRITICAL	POST---
Reason for research	PREDICT Discover natural laws so people can predict and control events	UNDERSTAND To understand and describe meaningful social action	EMPOWER To empower and radically change women socially, personally and politically	EMANCIPATE To smash myths and empower people to change society radically	DECONSTRUCT To demonstrate the ways language obfuscates meaning
Nature of social reality	Reality is objective and 'found'	Reality is subjective and constructed	Reality is socially constructed oppressions to regulate women	Reality is subjective and constructed on the basis of issues of power	Reality is ultimately unknowable
Nature of truth	There is one truth that can be discovered	Truth is many	Truth is many and can be found in women's experiences	Truth is many and constitutes a system of socioeconomic power	Truths are socially constructed systems of signs which contain the seeds of their own destruction
Nature of discourse	Discourse is structured	Discourse is dialogic	Discourse is gendered	Discourse is embedded in rhetorical and political purpose	Discourse is inseparable from its subject and is radically contingent and vulnerable
Nature of communication	Transmission	Transaction	Transgressive	Decision-making	Challenging the nature of communication
Epistemology	What is true? What can we know?	What can we understand?	What works against women? What must we do?	What is just? What can we do?	Is there a truth? What constitutes truth?

Summary by Nyna Amin

Worldviews

	Positivism	Interpretivism	Criticalism
Ontology (assumptions about the nature of reality)	• There is a reality 'out there', and it can be known. • Laws and mechanisms govern the workings of that reality. • Research can (in principle) find out the true state of that reality.	• There are multiple realities because meaning is grounded in experience. • Knowledge can be derived from sources other than the senses. • Reality is complex, and context-dependent.	• Reality may be objective or subjective, but truth is continually contested by competing groups.
Epistemology (assumptions about the nature of knowledge)	• The investigator and the object under investigation are two independent entities. • It should be possible to study something without influencing it. • Part of good research is employing strategies to reduce or eliminate any influence. • What is found – if replicable – it true. • The investigator might acknowledge 'true for now', but the assumption is that 'true' can indeed be found with the correct techniques, information or research question.	• Knowledge is derived from people's experiences – both those of the researcher and the research participants. • Perceptions and experiences of both the researcher and the research participants affect what is seen and conceptualised. • There are multiple ways of knowing.	• Power relations determine what (and whose) knowledge counts. • Power is implicated in the relationship between the researcher and the researched. • What can be known is inextricably intertwined with the interaction between the researcher and the researched.
Related theories	• Behaviourism[12] • See also Chapter 20	• Social constructivism/social constructionist theory (emphasis on construction of meaning)[13,14] • Sociocultural theory (emphasis on context of complex social environments)[15] • Sociomaterialism, including actor-network theory[16] and complexity theory[17] (emphasis on inter-relatedness of all aspects within a system)	• Critical theory[18] • Critical realism[19,20] • Race[21]/class[22] theory[23]
Example of research question	Positivist research usually tests a hypothesis and does not ask a research question: • "Perceptions of reward and punishment influence what students learn."	• "How do students' understandings of assessment shape their learning behaviour?"	• "What is the influence of diversity and the educational climate in shaping clinical competence of oral health students?"[24]

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Qualitative vs quantitative vs mixed methods

Approach or philosophy	Quantitative	Qualitative	Mixed methods
Assumptions	• Positivism/post-positivism • Social phenomena and events have an objective reality • Variables can be identified and measured • The researcher is objective and 'outside' the research	• Constructivism/ interpretivism • Reality is socially constructive • Variables are complex and intertwined • The researcher is part of the process	• Pragmatism, integrates the philosophical frameworks of both post-positivism and interpretivism • Reality is both singular and multiple • Pluralistic – gather all sorts of data in order to best answer the research questions • Depends on the nature of the data
Purpose	• Generalisability • Prediction • Explanation	• Contextualisation • Interpretation • Understanding	• Both • Both • Both
Approach	• Hypothesis testing • Deductive, confirmatory, inferential – from theory to data • Manipulation and control of variables • Sample represents the whole population so results can be generalised • Data is numerical or transformed into numbers • Counting/reductionist • Statistical analysis	• Hypothesis generation • Inductive and exploratory – from data to theory • Emergence and portrayal of data • The focus of interest is the sample (uniqueness) • Data is words or language, minimal use of numbers • Probing/holistic • Analysis draws out patterns and meaning	• Guided by the research problem(s) • Inductive and deductive, the sequence of studies will depend on the research problem(s) • Allows researchers to answer research questions with sufficient depth and breadth • Quantitative and qualitative findings are triangulated • Combines strengths of each approach while compensating at the same time for the weaknesses of each

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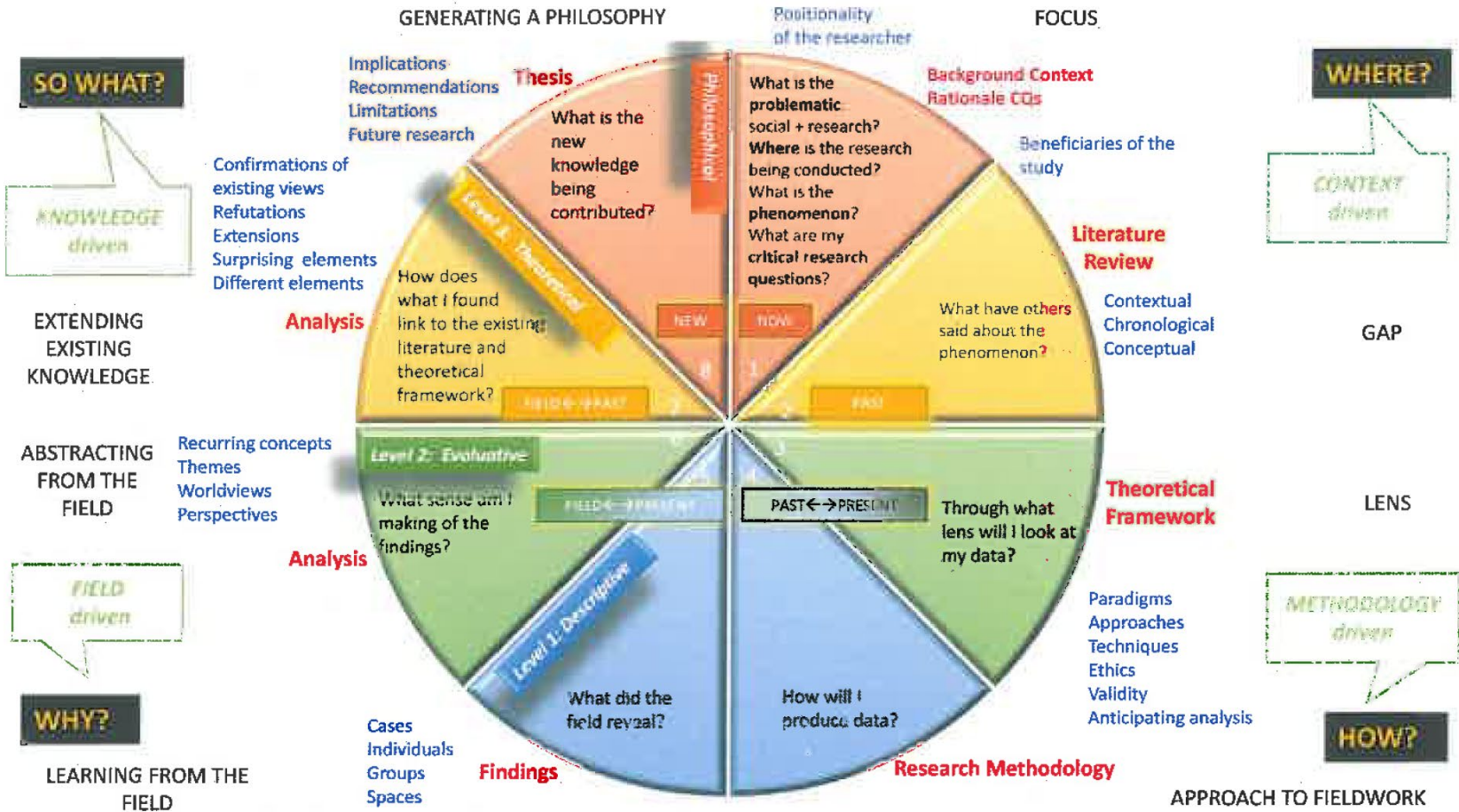
The Research Wheel: Prof Michael Samuels: UKZN

Contribution to knowledge	Stated gap in knowledge	Explicit research questions	Conceptual framework
Conceptual conclusions	SYNERGY AND THEREFORE		Explicit research design
Research questions answered			Appropriate methodology
Cogent argument throughout	Full engagement with theory	Clear / precise presentation	'Correct' data collection

Figure 1.   Components of doctorateness.

Tafford V, Leshem S. Doctorateness as a threshold concept. Innovations in Education and Teaching International. 2009;46(3):305-16.

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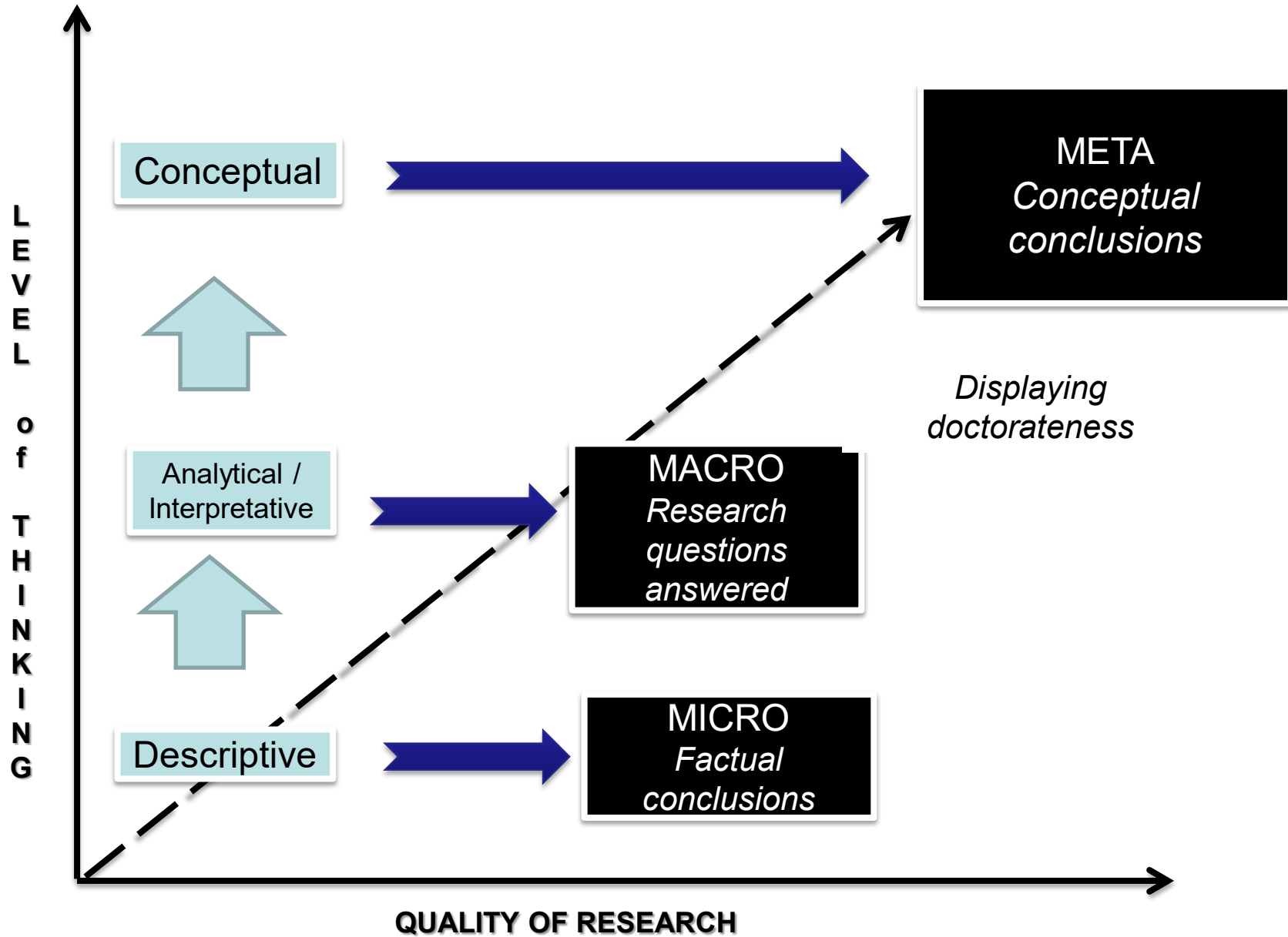
Trafford V, Leshem S. Stepping stones to achieving your doctorate (2008)

Theoretical Frameworks

- Derived from an existing theory/ries in the literature
- Already tested and validated by others
- Considered generally acceptable
- Researcher's lens with which to view the world.
- PhD: student makes a unique application of the selected theory/ies so as to apply theoretical constructs to his/her study

Theoretical Frameworks

- Traditionally -developed a priori
- Before data collection in quantitative designs.
- Can also be developed in the course of study
- Qualitative designs: structured/ less structured TF
- Prevents forcing preconceptions on the findings – TF emerges in the data analysis phase.

Conceptual Framework

Offers a logical structure of connected concepts that help provide a picture or visual display of how ideas in a study relate to one another within the theoretical framework.

Grant C, Osanloo A. Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house". Administrative Issues Journal: Connecting Education, Practice, and Research. 2016 Jan 7;4(2).

Building your CF

- Provide interpretive approach to reality – enhance understanding

- Take care of embedded relationships and causalities

- Explore & map spectrum of multidisciplinary literature

- Read deep and categorize

- Discover, explore & name concepts

- Deconstruct & categorize concepts (Jabareen, 2009: 53-55)

Building your CF

- Acknowledge each concept = critical role & place
- Do not predict an outcome – "soft" interpretation
- Accept that it is often a qualitative analysis process
- Integrate concepts
- Synthesize & resynthesize – seek sense
- Rethink framework and discuss

The Patient Care Delivery Model – an open system framework

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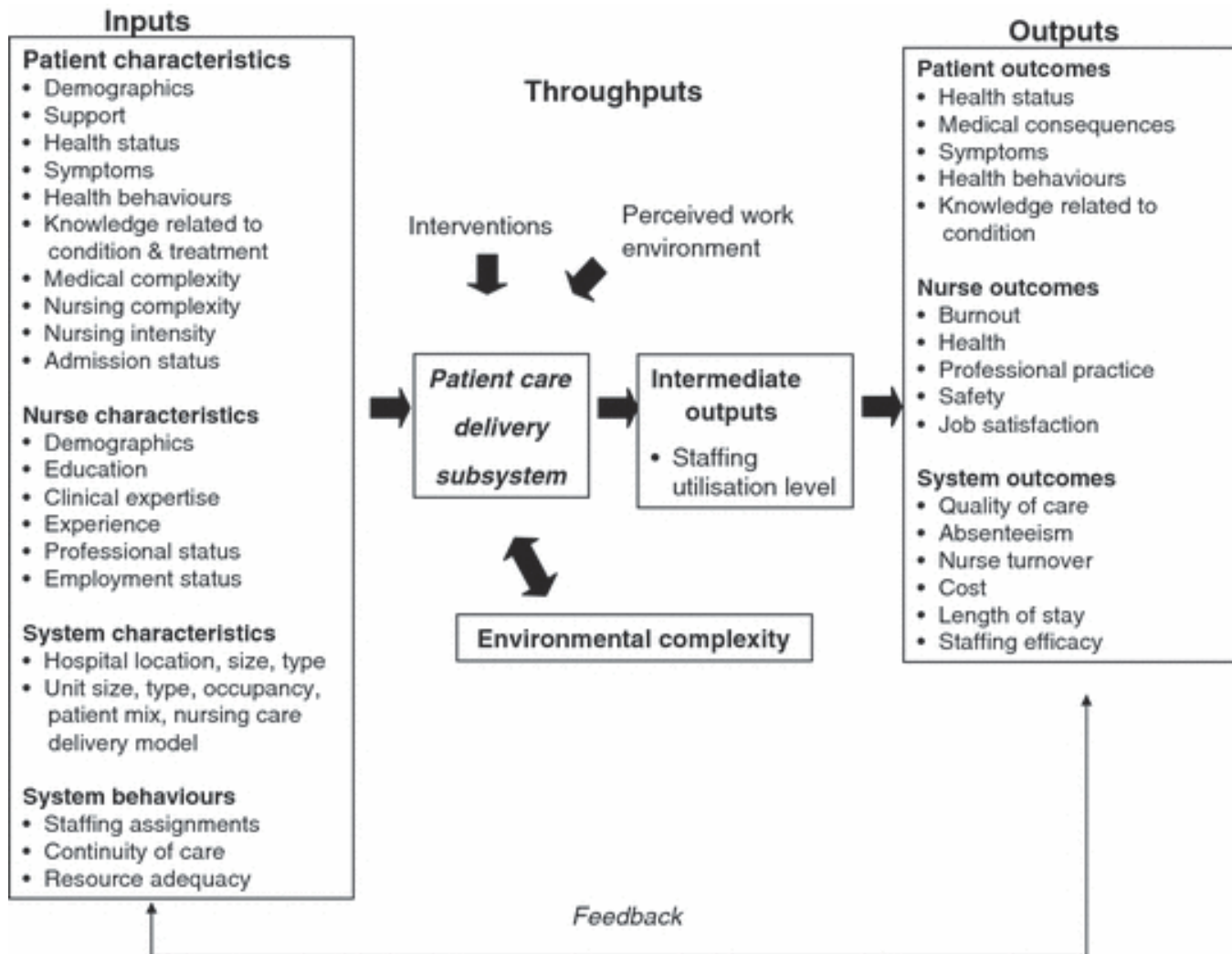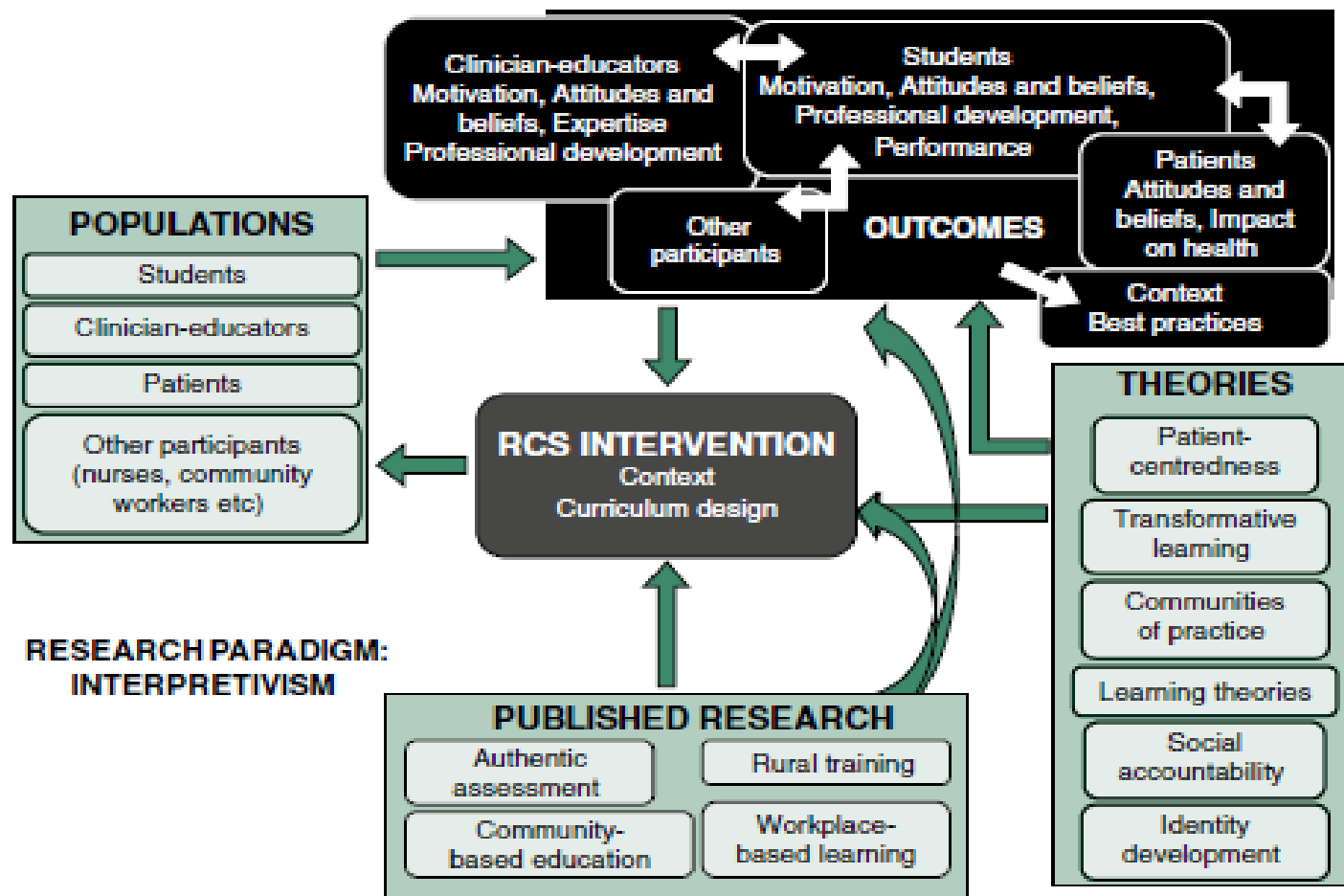
Figure 5.2 A graphic representation of a conceptual framework affords the researcher the opportunity to visualise the various components that contribute to the development of the research question. This example represents a potential conceptual framework for the RCS intervention. The research paradigm, the theories and published research that informed the conceptualisation, the context and the various populations and variables are all represented in this framework

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		When to engage ?	Purpose	Areas of use	At the end of the study...
A	CONCEPTUAL FRAMEWORK	Before commencement of **the study**	To clarify divergent, convergent definitions of the key constructs. To sift /sort and OPERATIONALISE key concepts for the SPECIFIC STUDY. (What do I mean by the concepts?)	To show the relationship between constructs Usually at MASTERS level	Proposed new (re)definitions , **CONTEXT DRIVEN** →operational, evaluative clarity
B	THEORETICAL FRAMEWORK	Before commencement of the **data production plan** (fieldwork)	To theoretically organize, sort, categorise the range of perspectives about the phenomenon. To identify the gap in the extant body of knowledge (previous studies). To propose a temporary lens to guide the development of research instruments for the specific study. (What is currently understood about the phenomenon?)	To establish the kinds of lens or existing hypothesis, and to test if the context/field diverges or not from such Activating a priori assumptions	**THEORY DRIVEN** PhDs and Professional doctorates →activating theory, context and practice
C	ANALYTICAL FRAMEWORK	**After** (first) **descriptive** level of **data analysis**	To introduce previously-not-engaged theories to make sense of the trends in the produced data (What new ways could I look at the data?)	To generate new hypotheses	DATA DRIVEN PhDs → Dialogical links between Design and field

Portfolio of Research

Contents:

1.Introduction

2.Learning outcomes

3.Learning plans

4.Reflections

5.Educational meetings

6.Assessments by supervisors

7.Assessments by moderators

8.Chapters/ publications

9.Other courses, congresses, workshops, meetings

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Breakout session two:
What skills do you need to complete your PhD journey and how can a POR help you?

Learning Plan

- What do I want / need to learn?

- How will I do it?

- How does it fit with the curriculum outcomes?

- How will I know how well I learnt?

Start by answering the following questions:

1. What do I intend doing in the next six months?

2. Reflect on your prior learning that is relevant to this next period of training, and formulate you learning need?

Map against learning outcomes

- Demonstrate expertise and critical knowledge in the area of specialisation and be able to conceptualise research and create new knowledge or practice

- Contribute to scholarly debates around theories of knowledge and processes of knowledge production in their chosen field

- Develop new methods, techniques, processes and systems or technologies in original, creative and innovative ways appropriate to the specialised context of their chosen field

- Solve problems by applying specialist knowledge and theory in critically reflexive, creative and novel ways to address complex theoretical and practical problems

- Demonstrate ethical and professional practice by identifying, addressing and managing emerging ethical issues and advancing processes of ethical decision-making, including monitoring and evaluation of the consequences of these decisions where appropriate

Map against learning outcomes

- Make independent judgements about managing incomplete or inconsistent information or data in an iterative process of analysis or synthesis for the development of insights into complex and abstract ideas, information or issues

- Produce substantial , independent , in-depth publishable works which meet international standards which is considered to be new and innovative by their peers and makes a significant contribution to the field

- Understand theoretical underpinnings in the management of complex systems to achieve systemic change and the ability to independently design, sustain and manage change within the system or systems

- Demonstrate intellectual independence, research leadership and management of research and research development in their chosen field

- Operate independently and take full responsibility for his or her work and lead, oversee and be held accountable for the overall governance of processes and systems

Learning outcome	Learning need/ objective	Panned activity	Timelines, support and resources needed	Evaluation (How will I know that I have met my objective)
Demonstrate expertise and critical knowledge in the area of specialisation and be able to conceptualise research and create new knowledge or practice	Understand my positionality	Develop background, context, rational critical questions	6 months, 3 meeting with supervisors 1 hour/ day	Social and scientific value of study is acceptable to supervisor Clear phenomenon defined CQ defined
Contribute to scholarly debates around theories of knowledge and processes of knowledge production in their chosen field	Understand the theoretical construct of the study	Define my paradigm and theoretical framework	6 months 3 hours/ week	Developed theoretical and conceptual framework for the study
Develop new methods, techniques, processes and systems or technologies in original, creative and innovative ways appropriate to the specialised context of their chosen field	Conduct a systematic/ scoping review	Attend a workshop on systematic reviews. Develop RQ that needs answering Write up a LR	6 months	Literature review done and feedback from supervisor
Solve problems by applying specialist knowledge and theory in critically reflexive, creative and novel ways to address complex theoretical and practical problems	Reflect on own perspective and assumptions.	Write a written reflection	6 months 2 hours	Supervisor provides feedback on written reflection

PhD Learning Outcomes	Learning needs/objectives	Planned activities to meet these objectives	Timelines, Support and Resources required to meet these objectives	Evaluation (how will you know if these objectives have been met, suggested tools)
Demonstrate expertise and critical knowledge in the area of specialisation and be able to conceptualise research and create new knowledge or practice.	1. To critically evaluate and analyse existing research literature, identify key gaps, limitations, and areas for further exploration.	1. Identify reputable scientific journals, publications, and online platforms that specialize in blood transfusion. 2. Utilise academic databases such as PubMed, Google Scholar, and Scopus to search for and access scientific articles. 3. Identify at least 50 peer reviewed articles relevant to my topic. 4. Develop specific search queries using keywords related to blood transfusion research. 5. Take notes and create summaries of key findings, methodologies, and conclusions of relevant articles in a personal journal.	• 6 months • Access to the internet. • Library access (physical or digital). • Access to academic databases like PubMed, Google Scholar, and Scopus. • Subscription to various journals.	Production of the literature review in the research proposal.
	2. To stay abreast with the latest developments, trends, and emerging theories or practices in transfusion medicine through continuous learning and professional development activities.	1. Subscribe to email alerts and RSS feeds from journals to receive notifications about newly published articles. 2. Create profiles on academic networking platforms: ResearchGate and Academia.edu.		Filed publications from these alerts
	3. To acquire advanced knowledge and expertise in research methodologies, data collection techniques, and data analysis methods.	1. Attend courses on qualitative and quantitative research techniques. 2. Visit the official REDCap website to access training resources, documentation, and user guides. 3. Create a test project in REDCap to practice data collection techniques. 4. Finalise the proposal.	• Physical or digital notebook or note-taking software. • Enrolment in courses offered by UKZN or online platforms. • Access to REDCap software. • Software for drafting and formatting the proposal: Microsoft 365.	Pilot the test project on REDCap

Understand theoretical underpinnings in the management of complex systems to achieve systemic change and the ability to independently design, sustain and manage change within the system or systems.	1. To understand the application of the Theory of Change (ToC) approach as a management tool and framework for sustained and dynamic improving of health systems.	1. Read books, articles, and research papers that explain the Theory of Change concept, its principles, and its applications in health systems. 2. Look for resources specifically related to ToC in the context of healthcare and health system improvement.	• 6 months • Access to the internet. • Library access (physical or digital). • Access to academic databases like PubMed, Google Scholar, and Scopus. • Subscription to various journals. • Specific keywords and search strategies to narrow down resources related to ToC in healthcare.	Production of the theoretical and conceptual framework for the research proposal.
	2. To develop a deep understanding of the foundational theories, concepts, and principles in health systems strengthening.	1. Connect with professionals who have experience in managing transfusion services such as Dr Robert Wise. 2. Attend at least one webinar, or a conference that focus on systems thinking, complexity, and innovative management strategies.	• Email address of Dr Robert Wise. • Registration and travel expenses for attending conferences.	Zoom meeting with Dr Wise Attendance of training

Reflection

- "Reflection is a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both the self and the situation so that future encounters with the situation are informed from previous encounters"

- Essential component of reflective thinking and reflexive practice

Sandars, J. (2009) The use of reflection in medical education: AMEE guide No 44. Medical Teacher 31:685-695

Tools for educational meetings

- Positionality

- Literature review

- Research paradigm and theoretical framework

- Methodology

- Analytical framework – descriptive/ evaluative

- Theoretical analysis

- Philosophical analysis

The Research Wheel: Prof Michael Samuels: UKZN

Assessment

"The thesis provides a very cursory insight on the research. I have no insights on how the writer saw the topic. It was frustrating to read about a 'critical stance' that seemed to have informed the chapters on research design, interpretations and conclusions when the basis for such a perspective was overlooked. This called into question whether he really understood what he had been doing as a researcher."

"Genuine engagement with the sources cited in thesis was infrequent. This applied specifically to the literature chapters, the explanation of the research methodology and the conclusions chapter. Thus, although I could read what had been written, I had no feel for how the candidate understood the sources at any serious level of meaning. The viva confirmed that he was indeed unfamiliar with the essential meanings that were in his literature."

Tafford V, Leshem S. Doctorateness as a threshold concept. Innovations in Education and Teaching International. 2009;46(3):305-16.

Thank you
Questions?